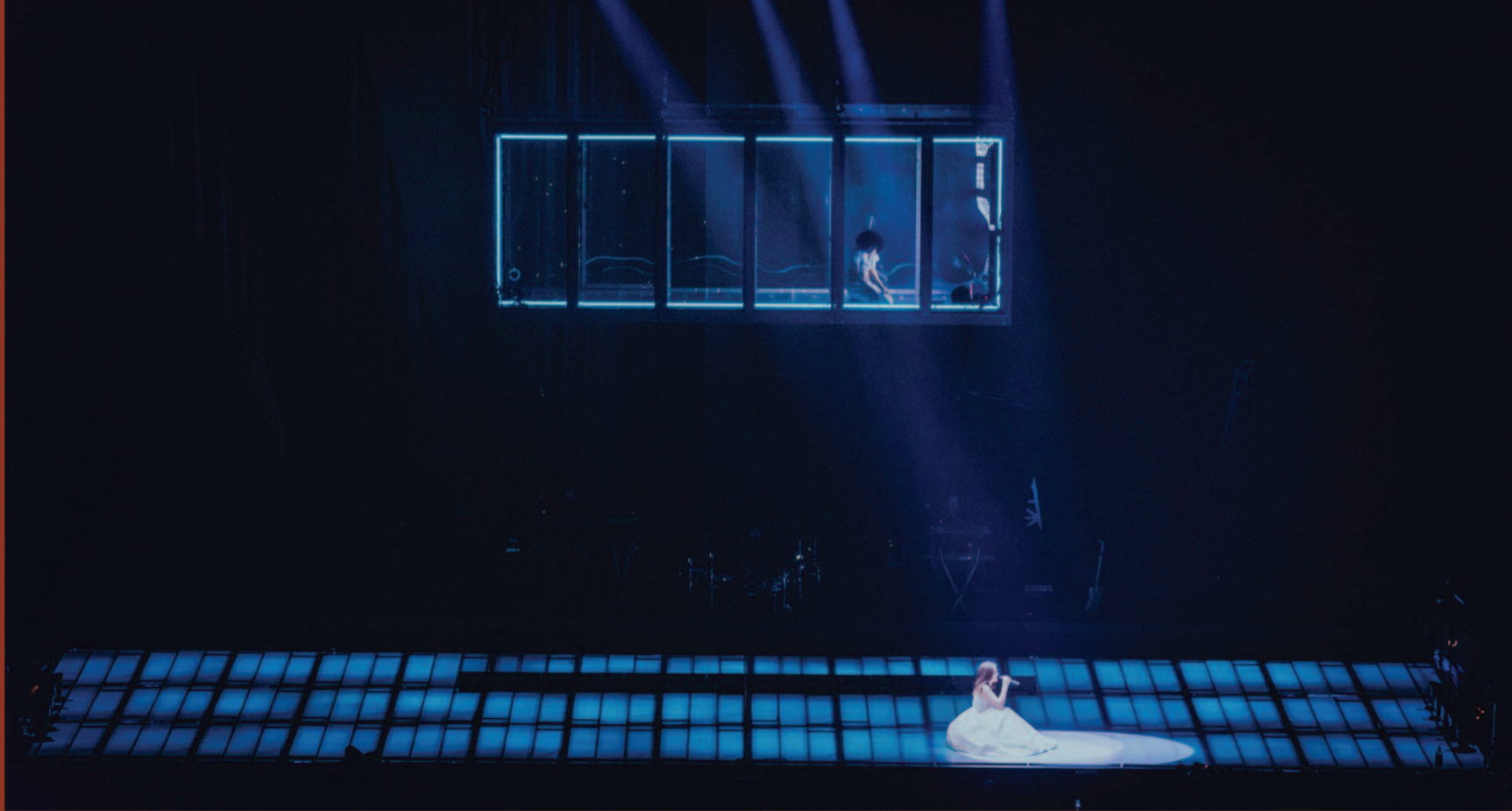




Melodrama, Without Drama

A highly creative team
brings technical
innovations to Lorde's
latest tour

By: Sharon Stancavage



The production design's concept is related to Lorde's album, also named *Melodrama*, which has a partygoing theme.

The genesis of Lorde's *Melodrama Tour* began in 2017, at the Coachella Valley Music and Arts Festival. "It was her first show back after several years; she was keen to make an impact and was not quite sure how it was going to go," admits Richard Young, the tour's production director. He contacted production designers Es Devlin and Rob Sinclair; Devlin came up with a concept that included a tank. "It was within Ella's [the singer's given name] wheelhouse in terms of look and feel," Young says. "The Coachella show was built with the concept of having a Perspex tank that was going to act as a terrarium or a place to focus the action." The tank also filled the large Coachella stage, giving Lorde a presence, Young notes: "Realistically, Ella is not an artist who uses tons of dancers, pyro, or set pieces. The idea of containing everything within this 20'-wide Perspex box was appealing." The tank, as it is known, was a hit with fans and garnered great reviews.

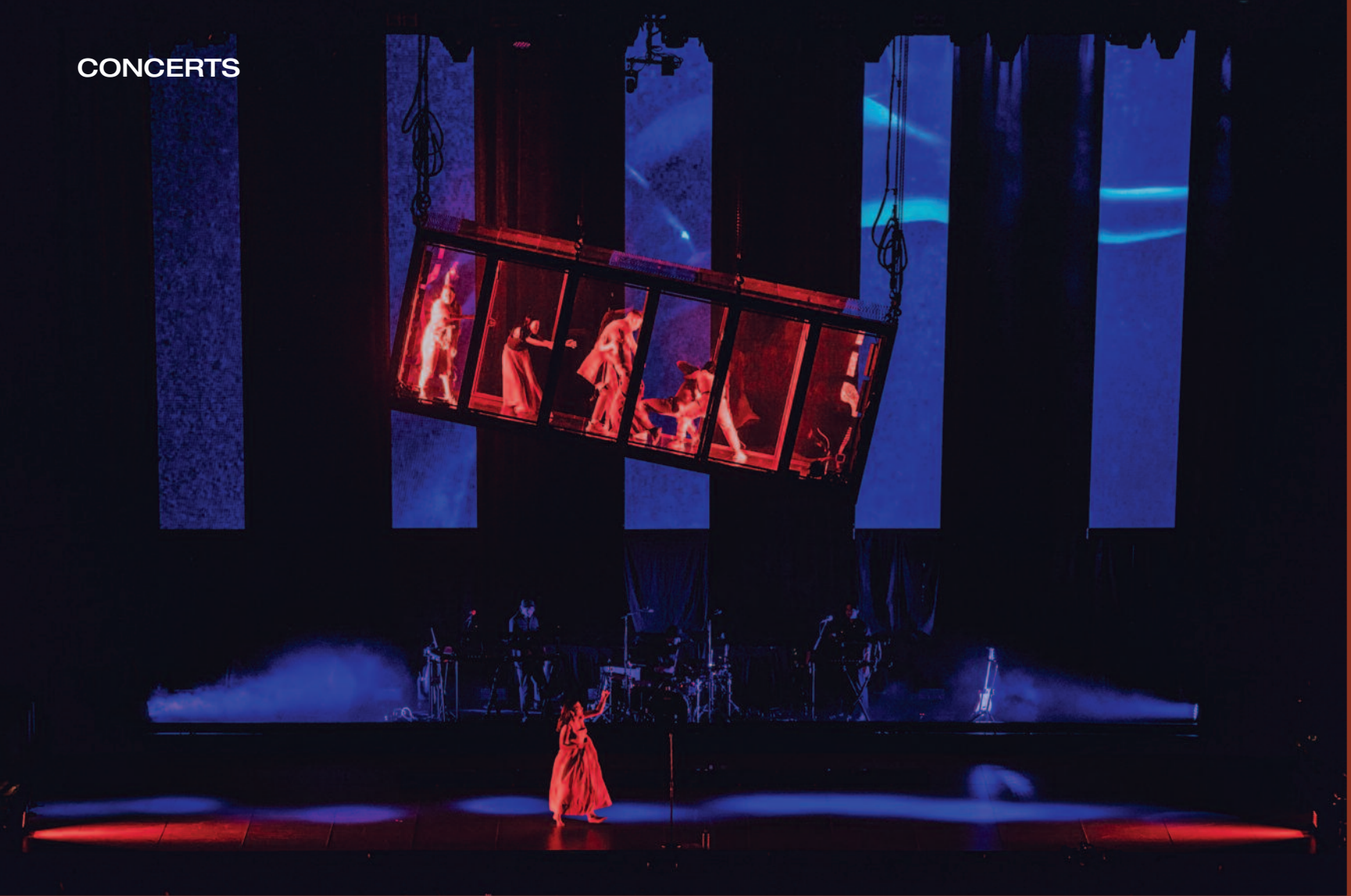
"Once it was agreed we were going to do an arena tour, Ella definitely wanted to include it, or a version of it," Young says. "The tank at Coachella was kind of an art piece in itself; it was on scissor lifts and looked like a thing—and then people got into it. The tank for the arena tour is virtually transparent; it's less obtrusive as a device. Its primary job is to carry the action, whereas, before, its

primary job was to be something to look at."

The concept of the tank relates back to Lorde's album, also named *Melodrama*, which, Young says "is about the ups and downs of going to a party with your friends, drinking too much, being excessive, and having a moment when you've gone to the bathroom and wondered what you're doing with your life. Having the tank enabled us to introduce the audience to the voyeuristic look at the party.

"The tank is suspended on chain motors, and we start with it submerged in the stage," Young continues. "If you've not seen the show, and you don't know what is coming, you can't see it. We reveal the tank a third of the way in; it goes up and down and dancers get into it. At the end, the dancers ride the tank into the grid, and the party floats away. Ella walks away, leaving the party going on behind her."

The tank was fabricated by TAIT, located in Lititz, Pennsylvania; the project manager overseeing it was Shannon Nickerson. "Conceptually, the idea was for everything to be free and flowing, like a box full of water that allowed for grand flowing gestures," she says, adding that there were "two driving forces to be considered" for the piece. "One was that it be designed to break down and transport into minimal square footage. The other was that the movement of it be greater than at Coachella. Knowing those two requirements, we focused on its design and the rigging system, so we could achieve more height and



The ROE Visual 7mm LED tiles are part of the video package provided by Upstaging.

greater angles.”

The tank is 21' wide, 7' deep, and 8' high; the maximum trim height is 48'. “The top and bottom surfaces are made from clear acrylic so that it can be lit from above and below,” Nickerson says. The tank has three doors and one top access hatch; it’s flown using eight Tait Navigator Hoists. “They are one-ton Nav-Hoists that are double-reeved to hold two tons. Using Nav-Hoists, we can pull the box up from under the stage and fly it at the end of the show, leaving the stage clear for Lorde.”

The stage features a transparent deck, with additional options, Nickerson says: “Having the box rise from underneath the stage—instead of using scissor lifts—also provided us with an opportunity to fill the hole with a slip stage, allowing performances to take place under the box while performers were revealed inside the box. The movement and height of the box is limited only by the trim height in each venue.”

The slip stage is 21'-6" wide by 8' deep. Nickerson notes: “The slip stage is part of the downstage area and has the same acrylic and vinyl treatment to be part of the

lightbox; it’s operated by a crew who can roll it in and out of the way and lock it into place.”

The custom rolling stage is 56' wide by 40' deep, she says: “The upstage area (which is 56' wide by 16' deep) is built extra-sturdily, to support an LED wall, and houses the band equipment. The downstage area is 56' wide by 24' deep, and the surface is acrylic with a vinyl overlay. The lights [96 Eurolite LED PMC units] are underneath the stage, pointing upward to create a large lightbox effect.”

Lighting

Young brought aboard lighting designer Martin Phillips, a compatriot from his days with Incubus and Nine Inch Nails. “Ella wanted a collaborator, more than anything else,” Phillips says. “She wanted someone who would understand what she was trying to create and present. The way I interpreted it, she was after someone who was willing to throw things out that didn’t work, which we did.”

Phillips continues, “Once we realized we had a pretty good shorthand between the two of us, it came down to being specific: ‘I don’t want to see these lights here, I want

to wait until this specific musical cue.' Ultimately, she was in the driver's seat. You could bounce as many ideas off her as you wanted, but if she had a solid idea, it was my job to bring that fruition for her."

The tank—and the video—also affected the trussing configuration. "The video design and the tank was all pretty much done by the time I came into the picture," Phillips says. "Because of the nature of them, what is flown is very much tied into what's on the deck. It was just a matter of jiggering them to fit into the tank trusses and the automation trusses."

Also, he says "I couldn't have any trusses downstage of the L-Acoustics PA system for it to work to optimum levels. It had to be in a certain position in relation to the downstage edge, and anything downstage of it would block the audio coming out of it. It meant that everything had to slot into that 40'-deep by 60'-wide area, which prompted me to make certain technical decisions." The lighting rig is based on straight trussing overhead and a set of wide toms downstage and tall toms upstage.

Phillips, a fan of structure, says, "For me, there has to be a beginning, middle, and an end. You can't blow up the Death Star halfway through the show. You have to do it at the end." Lorde feels similarly, he notes: "That's why I enjoyed working with her. The tank does this and the tank does that; you don't see this in the first couple of numbers and you don't see that until this point, and, in the end, you chuck in everything but the kitchen sink."

One of Phillips' favorite fixtures is the TMB Solaris Flare Q+: "I use it for big chunks of light with large coverage; people have to do a fair amount of work to walk out of the beam. I love it as a dance light, because you can get all the way to one side of the stage; Ella would still be lit from her toes to the top of her head, even if she was only 4' or so away from it. As far as brute light output and coverage, it's an amazing fixture." However, he adds, "I wish somebody was making accessories for them, like City Theatrical has done for the [Phillips Color Kinetics] ColorBlast range." There are 41 Solaris Flare Q+ units on the floor and in the air.

Phillips says he uses "the GLP impression X4 as an all-purpose, fast, bright, color-mixing wash fixture; it's my favorite. I use it for overall general washes." There are 42 in the air, along with another 37 GLP impression X4 Bar 20s. "We use them as a separator. The first half of the first number features dancers. Ella is upstage singing, but you can't see her. She's behind a sheet of GLP X4 Bar 20 lights, and, at a certain point, it looks like the curtain parts, because we turn off individual cells to reveal her behind it. It all hinges on her not wearing anything white upstage and there being loads and loads of smoke to make it work."

The tank is fitted out with several luminaires. "Ella and I talked about having something with more of a graphic representation onstage; we decided to outline the front face of



The floor is illuminated by 96 Eurolite LED PMC units.

the tank with [16 Martin by Harman VDO] Sceptrons." Inside, Phillips says, "There are eight Solaris Flare Q+ units; it's based upon what had been done previously with festival shows where Ella had the tank. I looked at a number of fixtures and went back to the Solaris, because of the size of the beam, the output, and the size of the fixture. You get a lot of light with a large spread for not a lot of physical fixtures, and we wanted to make them disappear as much as possible. In an ideal world, you wouldn't see them at all."

To illuminate the exterior of the tank, "There are [four Robe ROBIN] BMFL Blades in the tall side toms," he says. "We're able to light the performers in the tank and to shutter down from either side so we don't have spill on the backdrop or on the band." Three additional BMFL Blades are located inside the slip stage.

For key light, Phillips uses 72 Martin MAC Viper Profiles, with 18 Philips Color Kinetics ColorBlaze 72s for cyc light, and 16 wireless Astera AX1 units. "I was really impressed by the Astera tubes; the amount of light you get out of them is crazy, and they'll last eight hours on the battery," he says. "The response over Wi-Fi has been impressive; I

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think there is room for some improvement there, but it did what it said on the tin.” The Astera AX1 tubes are moved around, manually, by the dancers; they line the stage at certain points and are placed on top of the tank when it is recessed in the stage—and when Lorde uses it as a seat during “Solo” and “Liability.”

The production includes six Reel EFX DF-50 hazers and six High End FQ-100 fog generators. “There are two working the upstage, two working towards the downstage edge, and one or two under the stage to fill up the tank,” Phillips says. “There’s a point where we fill the tank with smoke [“Supercut”] and light it from inside, so it’s like a big chunk of color; [Lorde] and the dancers perform in silhouette in front of that.” Also used are four Look Solutions Tiny Fogger battery-operated units. “They are wireless and battery-operated, so we can be fogging up the tank remotely,” Phillips says. “You only get ten minutes of run time out of them, but they’re still awesome.”

The production also features the Follow-Me remote followspot control system, which is distributed by AC Lighting. “We have six trackers,” Phillips says. “One stays on Ella and the other five are on the dancers. Of course, we have six dancers, so when they’re all on stage, you have to be clever with your programming.” The Vipers and flown GLP impression X4s are also linked to the Follow-Me System. “The most I ever have is four for Ella, and two for

five other dancers, so that’s 14 at any given point. I was hoping to get more sidelight tracking from the downstage toms, but I didn’t want to pound [Lorde and the dancers] in their faces all the time with this tracking light.” The production also uses two venue spotlights for Lorde’s front light. The lighting rig was supplied by Upstaging, based in Sycamore, Illinois.

Phillips and Lorde worked together on the color palette. “Ella has a particular connection to color,” he says. “She has synesthesia, which means she feels color. She gave me broad color palettes for the songs, how those songs felt to her and the color associated with that feeling.”

Programming was done by Josh Koffman on an MA Lighting grandMA2 console; lighting director duties were split between Rachel Mullen for the first half of the run and Cat West for the second. “Josh, who I’ve worked with a number of times, was awesome as usual,” Phillips says. “Ben Wingrove, my right-hand man, pre-viz, and general tech guru, knocked everything out of the park, as always. Rachel couldn’t finish up the tour, but we were very lucky and happy to get Cat out to finish up the US leg. Paul Costa and the entire Upstaging team, lighting and video, were outstanding in the face of our many challenges getting this up off of the launch pad, I can’t say enough good things about them. It was a great experience on multiple levels.”



Lorde worked with Phillips on the color palette of the show’s lighting.

Photos: Julian Bajzel



The finale includes custom confetti via four Quantum Super Blaster XL confetti cannons.

Video/special effects

The video is very much a backdrop to the narrative," Young says. "You can look at it out of the corner of your eye, be distracted by it for 30 seconds, and then look back at the action in the foreground." The imagery, he adds, isn't narrative-based, but related to the songs: "Some of it features kids dancing at the party." But, he adds, the images are so intentionally hazy that "after you've worked out what it is, there's nothing else to look at." The content is presented on five 4'-wide, 30'-high spikes of ROE Visual 7mm LED tiles. "They are automated by a custom-fabricated system from ACASS-Systems [located in Omaha]. The LED spikes are suspended, but there is a track on the bottom, so they can lean over," he says. ACASS also provided the custom frames for the spikes.

The production includes an extensive video package, also from Upstaging. "We had a standard two M/E video switcher with an engineering rack, as well as four Sony broadcast cameras; two were handheld and two were at the front of house," reports Upstaging project manager Tony Thompson. Included is a bevy of robo cameras and

lipstick cameras; the images are displayed on left/right IMAG screens via two Christie 20K Roadster projectors.

This is the third year that Upstaging has been providing video equipment. "The video side has been an organic change for us," Thompson says. "Obviously, we're a lighting company more than anything, so the transition to a full-service video provider has been an exciting one." Upstaging provided the video, LED, and lighting crew, and, Thompson notes, "We also helped staff the video director for the show."

While many video companies target massive shows, "Upstaging takes a detail-oriented approach to the preparation of both lighting and video systems," notes director John Huddleston. "It's a hands-on philosophy that allows us to provide successful systems that meet the vision of the artist and the designer, as well as all the technical requirements. We're also very selective in terms of the number of video projects that we take on at any one point in time, so that each video client—like our lighting clients—can benefit from the attention to detail and overall quality that is the hallmark of Upstaging."

The content for Coachella was provided by Good Company, based in New York City; it was re-edited for the arena production. Young says: "We had a local independent filmmaker, Erin Elders, who made some additional pieces for this tour." Video is controlled by a Catalyst media server.

The final visual element is deployed during the finale, "Green Light." "There are four confetti cannons, one on each side of the stage and two at front of house," Young says. "We also have biodegradable white paper stars, which have five original handwritten messages on them." Las Vegas-based Quantum Special Effects supplied Quantum Super Blaster XL confetti cannons.

Audio

Red Hook-based Firehouse Productions provided an L-Acoustics PA comprised of K2 and KARA cabinets and KS28 subs. Also in the mix is L-Acoustics L-ISA technology, appearing for the first time on a major US tour. "I have been aware of the L-ISA system for a while now," Young says. "I was invited by L-Acoustics to the studio in Highgate [London] to hear it, understand what it is, and how it could be applied to live music. It was amazing. I have great friends who work there, and we talked a lot about the business concept, practical concept, and so on." The L-Acoustics team in London wasn't trying to sell Young—who has a long relationship with the firm—on the concept, he says: "They thought long and hard about which type of artist would be appropriate to give this a good run out. The invitation to participate was exclusive to Lorde; it won't work for certain types of music, and we were fortunate to be in the right genre, in terms of clarity, depth of musicality, and arrangement. As much as I was

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selecting them for our tour, they were selecting us as the right artist for the first tour in North America.”

L-ISA rectifies what Scott Sugden, the company’s head of applications for touring, calls “the original sin of sound design.” He explains: “The show started with actors, musicians, and performers on stage, and we put sound off to the side, so there is no connection or no fusion between what we see and what we hear. Once we disassociated that, your eyes and your ears have to reconnect what you see and what you hear, which takes away from the show.”

For the L-ISA configuration, the PA hang is markedly different. “On the design side, we have to implement a much different way of designing sound systems,” Sugden notes; “this means multiple arrays. Instead of just a left/right, we start out with five arrays across the stage. These represent sonically what you are seeing on the stage.” Five is the minimum number of arrays for an L-ISA configuration. Sugden continues, “The center three arrays of K2 cabinets are effectively equivalent in acoustic power to what you would do in a left/right system.” These are comprised of 16 K2 cabinets each; the adjacent two hangs utilize 21 Kara cabinets each. “We’ve also added two arrays per side, extending almost the entire width of the lower bowl of the arena, to make that sound panorama very wide. The side hangs are four arrays of 15 Kara each, which is another 60 Kara cabinets. The hangs over the seats are more difficult, but everyone agrees they’re worth the work.” There are also two hangs of 12 K2 cabinets as outfills. Also used are 16 KS28 subs, hung at center in a cardioid, end-fire array; the result is a very consistent low-frequency pattern.

There are a lot of speakers in the air; for Lorde, there can be up to 13 hangs, four of which are located over the arena seats. Young notes, “You need more rigging points,

you need a few more crew, but the end result is well worth it in terms of the clarity of the mix and better coverage for more people.”

Sugden explains: “L-ISA is not about speakers; it’s about design, it’s about mixing and it’s about that processor,” which is handled via the software-driven L-ISA Controller. “Instead of the mixing board outputting just left and right, it actually outputs every single channel through the L-ISA processor. We can take 96 inputs from the mixing desk and route it to the processor that creates the content for all the speaker clusters based on the design for the day.”

L-ISA offers several parameters, starting with pan and width. “Pan is the same as mix engineers have always had,” Sugden says. “With width, engineers can make an object or a sound focused, or we can widen it out to give it the feeling of more space. That parameter is new; it’s not something we have had before.”

The next three parameters are distance, aux send, and elevation. “Using distance, you can make an object feel close or feel far away,” Sugden says. “By doing that, we can push things into the background, not by turning them down or EQ-ing them differently; we can just push them backward. If we want to highlight a lead section or a lead instrument in a musical moment, we can just bring them forward in the mix, as opposed to having to redial in everything around it.” The aux send feature functions the same as it would in the console. In this case, it’s used as a subwoofer send. As for elevation, “If you have those speakers overhead, each object can have a horizontal and vertical position. In Lorde’s case, we’re not using elevation, because there are no elevation speakers. So that’s not something for this show.”

The combination of the L-ISA Processor with the new cabinet configuration creates an immersive experience for the audience. “When you see Lorde,” Sugden says, “even in those subtle songs, where there’s not dramatic sound flying over the place, you feel like you’re in a club, listening to Ella sing, not with 15,000 of your friends. And that’s a totally different feeling. You don’t have to get impact from turning it up louder; you can get it from the subtleties and nuance. You can hear what she’s saying in every single seat, perfectly.” During the show, the audio—including the times when Lorde talks to the audience, which she does at length—sounds remarkably crisp and clear, even at 270° and beyond.

Young and the Lorde team signed on, and everyone got to hear the system during rehearsals. “Because of our tight production schedule,” Young says, “I put a lot of pressure on the audio team just to get speakers in the air, so we could get the stage built and all the lights up. The audio team was worried. I said, ‘Just get it in the air, because it’s in the way. We’ll come back tomorrow and tune it.’ They just threw it up in the air, and, because they



The Lorde L-Acoustic PA hang can include up to 13 separate hangs, including some over the seats.

can't help themselves, they did turn it on and, straight out of the box, no tweaking, no EQ-ing, it sounded phenomenal, even in an empty arena. That never happens."

Lorde's longtime sound engineer, Philip Harvey, says, "I was completely blown away. The clarity and consistency achieved by the L-ISA system is unparalleled. From notoriously bad-sounding arenas, this system has consistently delivered unprecedented sonic precision, and it's been amazing. I've had so many engineers come up to me and say, 'I rarely hear a good show here, and this is the first time I've actually heard a show with clarity and punch in this place.' Which is a complete testament to how well the design works in these less than ideal arenas."

"Most of last year, we did a lot of festivals where we weren't carrying control," Harvey continues. "Most of them had an Avid Profile for the front-of-house console. So, I succumbed to using a Profile for the 2017 touring." A L-ISA plug-in is being tested for DiGiCo consoles. "The plug-in is in Beta at the moment and wasn't ready for the start of this tour, but I was told that if I went with the [Solid State Logic] SSL L500 Plus, I wouldn't miss the plug-in integration, because everything is completely accessible on the controller with the computer interface."

Harvey went with his console of choice, and it has worked perfectly with L-ISA. "The SSL is the definitely the warmest, most analog-sounding digital console I've used," he says. "The difference in fidelity and transparency isn't in the same ballpark as with other available desks. I do believe this SSL is probably the best-sounding live console out there today."

Harvey has a streamlined setup at the front of house: "The only outboard gear is Waves MultiRack with a SoundGrid Extreme Server and the onboard processing in the SSL. The console processing sounds fantastic."

Lorde's vocal channel "comes in the SSL preamp via the ML32.32 analog stage rack and goes to the onboard high-pass filter and channel EQ. Then there is the A insert and the B insert; the A insert goes to an onboard SSL de-esser, and out of that into an onboard channel compressor. The vocal channel then goes out of the onboard channel compressor and into the B Insert, which then goes to the Waves MultiRack; the Waves MultiRack has a C6 Multiband Compressor plug-in, an Aphex Vintage Aural Exciter plug-in, and a Vocal Rider Live plug-in on it.

It comes back into the channel fader and goes from the direct out into the L-ISA system. I try to be as subtle as possible with each stage in that chain and to not hyper-de-ess or do a lot of multi-band compression with the C6 and the Vocal Rider; if you're subtle with each piece, the end result is much more realistic and dynamic."

The microphone lineup is varied. For the kick drum, Harvey uses a Shure Beta 52A; the snare top/bottoms are Shure SM57s, and the high hat has a Shure SM81. For the



Lorde uses a DPA d:facto FA4018V vocal mic capsule on a Shure Axient Digital AD2 handheld mic transmitter.

toms, he uses Sennheiser e604s, while the overheads are AKG C414B-ULS microphones. "For the guitar, it's a Shure ribbon mic, a [Shure] KSM313," he adds.

"For Ella's vocal microphone, we're using a DPA d:facto FA4018V, which is a super-cardioid linear vocal mic capsule on a Shure Axient Digital AD2 handheld mic transmitter. The AD2 transmits to an AD4Q Axient Digital wireless receiver," he says. The DPA mic is fairly new to Lorde, he adds: "She loves how warm and natural the mic sounds without bringing out harsh sibilants that others with a presence boost tend to."

The DPA is the ideal choice to combat sibilance, he notes: "The frequency response is completely linear on this microphone, so it's basically what you hear is what you get. If you need to add in that presence boost for your particular vocalist, you can do that; anything you do with this linear mic will basically sound good because the source is linear to begin with."

There's another benefit to the DPA, Harvey says: "One of the most amazing feats about it is that any off-axis sounds actually sound usable. With most unidirectional microphones, any off-axis material is going to sound strange and thin; if a singer is standing near a drum kit, you're going to hear cymbals and transients, but it's not going to flatter the drum kit because the off-axis sound is going to be very unnatural. With the DPA, all the off-axis bleed will sound as good as the on-axis material, which is kind of nice when your lead vocal mic turns into a great sounding room mic for the drums." The production uses Ableton Live with a UAD Apollo interface for playback.

Lorde's *Melodrama Tour* moves into Europe in late May; she is primarily playing festivals. 🎵

Mixing Lorde with L-ISA

According to Harvey, working with L-ISA involves a learning curve. “The hardest part about using it, compared to conventional left/right arrays, gets back to conceptuality, when those old tricks you learned on the road no longer work. With the advent of L-ISA, you kind of have to go back and relearn things you took for granted for 20-odd years.” Sherif El Barbari, director of L-ISA labs, says, “As we developed the L-ISA technology over the last several years, we learned, by experimentation, that mixing with a multi-channel system is different from mixing with a traditional left/right system. So many of the tricks and shortcuts that we use with stereo no longer apply, and, of course, there are new tricks and shortcuts to be learned and assimilated, as you are presented with this wide, deep panorama of sound.”

Harvey explains: “We went to L-Acoustics in Westlake [Village, California], where we had four days of mixing on the L-ISA system with their SYVA speakers, in a beautiful listening environment. We took all the multi-tracks from the show, got them set in a really nice mix with lots of depth and width, and it sounded amazing. As soon as we took

that mix into arenas, we realized that the depth and width were trickier to tackle when honing the clarity of many instruments in less-than-ideal acoustic environments. We had to narrow down most of the elements and bring them forward. It was initially a nice, pristine listening environment that, in comparison to the real world of the arena, was a challenge, but I’ve never heard better results.”

“You usually get a level of clarity during preparation and rehearsals in a smaller and usually better-controlled acoustical environment,” El Barbari says. “This needs to be adjusted once you get into a large arena environment. It’s been a real pleasure seeing Philip and the Lorde team get out there, night after night, with this new technology, and learn how to get the best out of it. We spend time with engineers who are about to embark on the L-ISA adventure, guiding them in the different ways that the multi-channel system will affect their mixing experience, but nothing can replace the feeling of being in the arena with your artist, your audience, and your mix. Philip and the whole sound crew have done an amazing job of taking the L-ISA technology and applying it to different venues and



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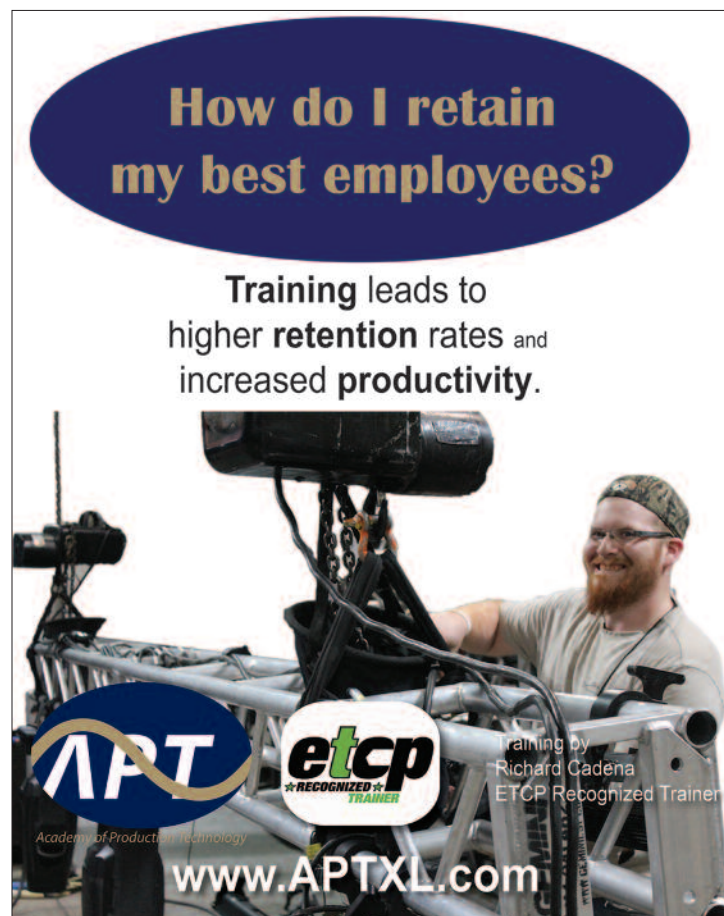
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Working with L-ISA, Harvey has found that he needs to be aware of correlated and uncorrelated sounds. According to Harvey, “Uncorrelated sounds refers to sonic information in a stereo signal in which the left and the right channels are different; they don’t share the same root sound. For example, low and high channels on a piano, even though they’re different notes, are a correlated sound, since they share the same basic sonic signature.” Although a synthesizer is similar to a piano, many of the sounds that come from it can be uncorrelated. “Synthesizers may have flanging, spatial delays and different effects that make it wider or very effected, and those can be different enough to be perceived as uncorrelated to the ear,” he adds.

When presented with L-ISA, “The first thing you tend to do is make everything super-wide and big,” Harvey says. “With the nature of acoustically correlated elements, the wider you go, you can sometimes end up sounding more mono with a perceived center phantom image taking over the stereo image,” he explains. In several songs, Lorde performs with a solo piano. “My initial idea was to get the piano super-wide, so it was coming through all speakers; I thought that would be a nice immersive foundation,” Harvey admits. But arenas are large, reflective acoustic spaces, and going very wide with the piano sound didn’t yield the results that Harvey expected. “We

discovered that by keeping the piano narrow and using it as single stereo point source, the clarity is much better defined,” he says.

“With [L-ISA] there is more space in the soundscape to work with,” Harvey continues. “It means less compression and EQ are needed, and things have a little more impact because you don’t have to make space for the instruments.” However, engineers must be attentive to the soundscape: “The wider you go with the fundamental instruments, the less impact you’ll have on the whole. When working with the drum overheads as two microphones above the drum set, my first reaction is to put the overheads wide so it sounds like someone is surrounded by the drum kit. But then you’ll get timing differences and flammings with transient signals.” Flammings happens when transients which should be perceived as hitting at the same time are not. “Flammings can happen when an acoustic kick and track kick play together and do not synch perfectly, or when the same transient arrives at different times in different microphones; this results in a strange doubling effect. If you position the snare in the middle speaker and pan the drum overheads as wide as possible in the extension scenes [L-ISA], you’ll learn very quickly that there’s an apparent delay between transients of the same source in three different speakers, because of the inherent time delay between the snare

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being picked up by the snare microphone and also picked up on the sides in the overhead microphones. Most transient signals, especially the foundation for the mix, had to be kept within the three K2 front middle scene speakers.”

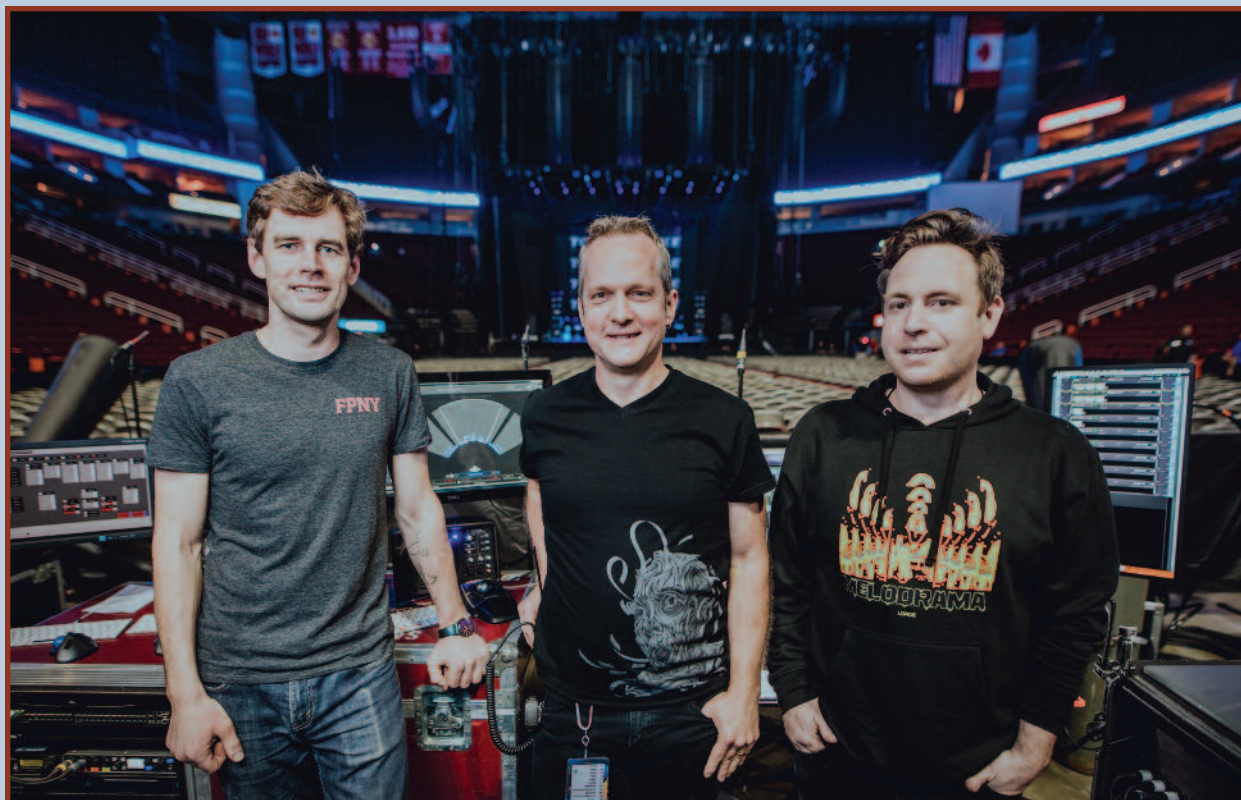
The L-ISA system has 96 inputs and no master bus, which also has implications in terms of live mixing, Harvey says: “All the channels are direct out straight from the console into the L-ISA via MADI, post-console processing, so any EQ or compression that is done on the channel, as well as VCA movements, carries over into the mix. You can’t, for example, put an EQ or compressor over the master bus to sweeten, thicken up the mix, or contain transients. You can send instruments to busses, compress and EQ the busses, and send the direct out of those busses to L-ISA mix. But, as far as having one kind of catchall or safety net on the entire mix, that’s nonexistent. You basically have to make sure your system settings in Network Manager are taking care of the room EQ and sweetening your mix with EQ.”

Another tried-and-true mixing technique on a left and right system involves parallel-compressing the drum kit. “You have your drum set mix, it sounds nice and natural, but you want to put some saturation on it, to make it have more impact,” Harvey says. “You take a stereo compressor, put it on a parallel bus, and run your drum mix through; when the two are mixed together, there’s a nice, punchy, in-your-face drum sound. You can make it sound

as natural or as overcompressed as you like with the relationship between the two busses.” Unfortunately, this isn’t really possible with L-ISA. “On this system, your drum compression bus needs to be five channels instead of the two left and right channels of a stereo bus; with parallel compression, you have multiple panning destinations, which proves to be much trickier than in a stereo configuration. I’m still trying to figure out the best way to approach doing this to get that effect.”

This issue affects other instruments as well, Harvey notes, “Engineers parallel-compress vocals, bass, drums or any mix elements and it’s a great way to have a very dynamic dry signal added with a nice overly compressed signal; the combination of two, especially in recorded productions, really give a great impact but you still have your original dynamic range. The best concept I’ve come up with is having a compressor with a wet/dry mix control on each element of the drum set and just blending it in with each single source, the kick, snare, toms, and so on, mixing in the right amount of compression on each channel. Then you can sidechain all these thresholds together, so it will pump and breathe as one compression effect.”

When asked if the L-ISA system has been a worthy addition to the Lorde tour, Harvey says, “Absolutely, the clarity in arenas is worth it alone! I kind of feel like I’ve been spoiled, because, eventually, I’ll have to go back to a left and right system and that will be difficult.”



The Lorde sound crew, from left to right: Michael Gazdzia, systems engineer; Philip J. Harvey, FOH engineer; Raymond Jeffrey, monitor engineer.

Photo: Julian Bajsel

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